

Please answer **only 5 questions** from the following questions @ Assume any missing data
Total marks = 100 , where 20 mark for each Question

Question One :

- A- Discuss the difference between anonymity and pseudonymity solutions.
- B- List both solutions drawbacks and applications .
- C- Explain the usage of the following in improving user privacy:
 - i- Privacy Policy
 - ii- Proxy and Firewalls
 - iii-.Net Passport

Question Two :

- A- You are about to purchase an item via an online shop using your credit card,
Show the steps you take to make sure your privacy is protected as much as you can ?
- B- Sketch the main components of a P3P System Architecture together with the interactions among its components .
- C- Explain three useful applications of XML.

Question Three : Write Python programs for the following:

- A- Read an image file (car.jpg) and then show the image and draw a square, green line with Circle-makers, around the object car.
- B- Compute the factorial of a number.
- C- Print the abbreviation of a month given its number.

Question Four:

- A- The following code has a number of syntactic errors in it. The intended math calculations are correct, so the only errors are syntactic. Fix the syntactic errors.

```
define project_to_distance(point_x point_y distance):  
    dist_to_origin = math.sqr(pointx**2 + pointy**2)  
    scale == distance / dist_to_origin  
    print point_x * scale, point_y * scale  
project-to-distance(2,7,4)
```

- B- Principal Component Analysis (PCA) is a useful technique for dimensionality reduction and is optimal in the sense that it represents the variability of the training data with as few dimensions as possible. Explain how you can use PCA instead of computing averages of images as follow:

```
def compute_average(imlist):  
    averageim = array(Image.open(imlist[0]), 'f')  
    for imname in imlist[1:]:  
        try:  
            averageim += array(Image.open(imname))  
        except:  
            print imname + '... skipped'  
    averageim /= len(imlist)  
    return array(averageim, 'uint8')
```

Question Five:

- A- For the following, write the line(s) of code that will emit the given Output.

- | | | |
|-----------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------|
| 1. >>> a_list = [3, 5, 6, 12]
>>> YOUR CODE HERE
3 | 2. >>> a list = [3,5,6,12]
>>> YOUR CODE HERE
12 | 3. >>>a list = [3,5,6,12]
>>> YOUR CODE HERE
[5,6,12] |
| 4. >>> a_list = [3, 5, 6, 12]
>>> YOUR CODE HERE
3 5 6 12 | 5. >>> a list = [3,5,6,12]
>>> YOUR CODE HERE
[12, 6, 5, 3] | 6. >>>a list = [3,5,6,12]
>>> YOUR CODE HERE
[9 15 18 36] |

Question Five: (continue)

B- Choose the correct Answer(s):

1. Assume you have values in the variables x and y.

What statement would result in x having the sum of the current values of x and y?

- a. $x += x + y$ b. $x = x + y$ c. $x += y$ d. $y += x$

2. Running the following program results in the error SyntaxError: bad input ('return').

```
def max_of_2(a, b):
```

```
    if a > b:
```

```
        return a
```

```
    else:
```

```
        return b
```

```
def max_of_3(a, b, c):
```

```
    return max_of_2(a, max_of_2(b, c))
```

Which of the following describes the problem?

- a. Missing parenthesis b. Wrong number of arguments in function call
c. Misspelled variable name d. Misspelled function name
e. Missing colon f. Extra parenthesis
g. Incorrect indentation

3. Given a variable n, which of the following expressions computes the ten's digit of n?

I.e., if n is 123.4, then we want the expression to evaluate to 2.

- a. $((n - n \% 10) \% 100) / 10$ b. $(n \% 100 - n \% 10) / 10$ c. $(n \% 10) / 10$

4. Which of the following arithmetic expressions are syntactically correct?

- a. $(7 - 2) / (3 ** 2)$ b. $8 / -2$ c. $(8 + (1 + (2 * 4) - 3))$
d. $5 * 3 (7 - 2)$ e. $9 - (2 - (4 * 3))$

Question Six:

A- Explain how you can calculate image shown in Figure 2 from image shown in Figure 1.

B- Show also how you can use the equations shown in Figure 3 to correct an image data.

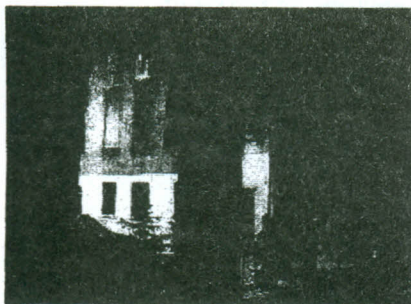


Figure 1

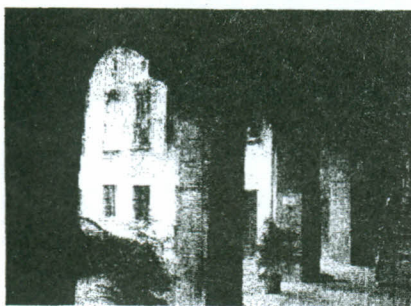


Figure 2

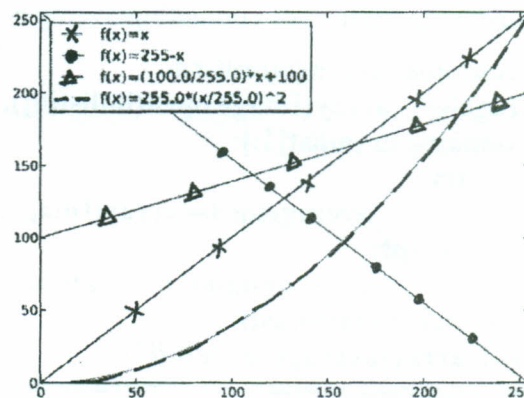


Figure 3

GOOD LUCK

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